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10/748,489	12/30/2003	Timothy C. Loose	47079-00243USPT	8735

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EXAMINER	
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,489	LOOSE, TIMOTHY C.	
	Examiner	Art Unit	
	Jeffrey D. Popham	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Remarks

Claims 1-23 are pending.

Response to Arguments

1. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 11-14, 16-19, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (U.S. Patent Application Publication 2002/0049909) in view of Pease (U.S. Patent 5,644,704) and Burrows (U.S. Patent 7,149,801).

Regarding Claim 1,

Jackson discloses in a gaming machine, a method of authenticating a media device comprising:

Determining a first next memory location in the media device (Paragraph 81 and 87-89);

Determining whether the first next memory location is a last memory location to be authenticated in the media device (Paragraph 81 and 87-89);

Applying a hashing algorithm to contents of the first next memory location and updating a key value (Paragraph 81 and 87-89);

Determining a next memory location in the media device to be authenticated such that the next memory location is separated from the first next memory location by at least one memory location (Paragraph 81 and 87-89);

Repeating the determining, applying, adding, and setting steps until the next memory location is equal to the last memory location (Paragraph 81 and 87-89);

Determining whether the key value is equal to a predetermined key (Paragraph 81 and 87-89);

In response to the key value being equal to the predetermined key, passing authentication (Paragraph 81 and 87-89); and

In response to the key value not being equal to the predetermined key, failing authentication (Paragraph 81 and 87-89);

But does not explicitly disclose setting an address pointer ADDR to a first next memory location in the device, setting the next ADDR to a next memory location in the device to be authenticated, and adding a predetermined number N to the ADDR such that a next ADDR = ADDR +

N, and that N is equal to a positive or negative integer excluding –1, 0, and 1.

Pease, however, discloses memory locations in the form of addresses, setting an address pointer ADDR to a first next memory location in the device, setting the next ADDR to a next memory location in the device to be authenticated, and adding a predetermined number N to the ADDR such that a next ADDR = ADDR + N (Column 2, lines 14-33; and Column 3, lines 26-65). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the data addressing and verification system of Pease into the secure gaming system of Jackson in order to allow authentication of data/memory to begin at any starting address and proceed through used as well as unused portions of memory, thereby providing a better verification or authentication of memory.

Burrows, however, discloses that N is equal to a positive or negative integer excluding –1, 0, and 1 (Column 8, lines 54-60; and Column 12, lines 35-41). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the checksum techniques of Burrows into the secure gaming system of Jackson as modified by Pease in order to increase the speed with which the system can perform integrity checks.

Regarding Claim 2,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Jackson discloses that the first next memory location is a first memory location of the media device (Paragraph 81 and 87-89); and Pease discloses that the first next memory location is a first memory location of the media device (Column 2, lines 14-33; and Column 3, lines 26-65).

Regarding Claim 3,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Pease discloses that the last memory location to which the next ADDR is equal is not the actual last memory location of the media device (Column 4, lines 20-37).

Regarding Claim 4,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Pease discloses calculating a random number S, wherein S is an integer from 0 to N and adding S and N prior to setting the address pointer ADDR to said first next memory location in the media device (Column 2, lines 14-33; and Column 3, lines 26-65); and Burrows discloses adding S to N such that N = S + N (Column 8, lines 54-60; and Column 12, lines 35-41).

Regarding Claim 5,

Jackson as modified by Pease and Burrows discloses the method of claim 4, in addition, Jackson discloses that the predetermined key is

equal to Z(S), such that Z(S) is equal to one of S predetermined keys (Paragraphs 81 and 87-89); and Pease discloses that the predetermined key is equal to Z(S), such that Z(S) is equal to one of S predetermined keys (Column 4, line 54 to Column 5, line 3).

Regarding Claim 6,

Jackson as modified by Pease and Burrows discloses the method of claim 5, in addition, Jackson discloses that Z(S) is calculated prior to a first time the device is authenticated (Paragraphs 81 and 87-89); and Pease discloses that Z(S) is calculated prior to a first time the device is authenticated (Column 4, line 54 to Column 5, line 3).

Regarding Claim 7,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Jackson discloses that the predetermined key is calculated and stored prior to a first time the media device is authenticated (Paragraphs 81 and 87-89); and Pease discloses that the predetermined key is calculated and stored prior to a first time the media device is authenticated (Column 4, line 54 to Column 5, line 3).

Regarding Claim 11,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Jackson discloses that the hashing algorithm is a SHA1 algorithm (Paragraphs 81 and 87-89).

Regarding Claim 12,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Jackson discloses resetting the authentication process in the media device after passing authentication such that the method repeats continuously until the media device fails authentication or the gaming device is turned off (Paragraphs 81, 85, and 87-89); and Pease discloses setting the address pointer ADDR to the first next memory location (Column 2, lines 14-33; and Column 3, lines 26-65)

Regarding Claim 13,

Jackson discloses a gaming machine comprising:

A user interface (Paragraph 48); and

A CPU coupled to the user interface (Paragraphs 53-54), the CPU comprising:

A processor (Paragraphs 53-54);

A first memory coupled to the processor, the first memory adaptable to store data in a plurality of memory locations (Paragraphs 53-54);

A second memory coupled to the processor, the second memory adapted to contain executable program code, the executable program code further comprises a plurality of instructions configured to cause the processor to determine the authenticity of the data in the plurality of memory locations (Paragraphs 53-58), the instructions include instructions for:

Performing a hash calculation on data of memory locations from the plurality of memory locations and calculating a key value from the data of memory locations (Paragraph 81 and 87-89);

Comparing the key value to a predetermined key (Paragraph 81 and 87-89);

Authenticating the data stored in the plurality of memory locations if the key value is equal to the predetermined key (Paragraph 81 and 87-89); and

Not authenticating the data stored in the plurality of memory locations if the key value is not equal to the predetermined key (Paragraph 81 and 87-89);

But does not explicitly disclose memory locations in the form of addresses or the like, that the hash calculation is performed on a sample of memory locations being a number of memory locations that is less than all of the plurality of memory locations and that each memory location of the sample of memory locations is separated from other memory locations of the sample of memory locations by at least one memory locations.

Pease, however, discloses memory locations in the form of addresses (Column 3, lines 26-65). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the data addressing and verification system of Pease into the secure gaming system of Jackson in order to allow authentication of data/memory

to begin at any starting address and proceed through used as well as unused portions of memory, thereby providing a better verification or authentication of memory.

Burrows, however, discloses that the sample of memory locations are a number of memory locations that is less than all of the plurality of memory locations and each memory location of the sample of memory locations is separated from other memory locations of the sample of memory locations by at least one memory location (Column 8, lines 54-60; and Column 12, lines 35-41). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the checksum techniques of Burrows into the secure gaming system of Jackson as modified by Pease in order to increase the speed with which the system can perform integrity checks.

Regarding Claim 14,

Jackson as modified by Pease and Burrows discloses the machine of claim 13, in addition, Burrows discloses that each one of the memory locations in the sample of memory locations are separated by N memory locations, wherein N is equal to a positive or negative integer excluding – 1, 0, and 1 (Column 8, lines 54-60; and Column 12, lines 35-41).

Regarding Claim 16,

Jackson as modified by Pease and Burrows discloses the machine of claim 13, in addition, Pease discloses that the number of memory

locations in the plurality of memory locations is equal to the total number of memory locations in the first memory (Column 3, lines 26-65).

Regarding Claim 17,

Jackson discloses in a gaming machine that is turned on, a method of repeatedly authenticating a portion of a media device, the method comprising:

Reading a plurality of memory locations that are spaced from each other in the media device (Paragraph 81 and 87-89);

After reading each memory location, calculating a hash value and using the hash value to update a key value until all of the plurality of memory locations are read and a final key value is determined (Paragraph 81 and 87-89);

Comparing the final key value to a predetermined key (Paragraph 81 and 87-89);

Passing the portion of the media device as authentic if the final key value is equal to the predetermined key and repeating the reading, calculating and comparing steps (Paragraph 81 and 87-89); and

Failing the portion of the media device as authentic if the final key value is not equal to the predetermined key and halting operating of the gaming machine (Paragraph 81 and 87-89);

But does not explicitly disclose memory locations in the form of addresses or the like, and that each of the plurality of memory locations

that is read is separated from the other memory locations by at least one memory location, the plurality of memory locations being less than a total number of memory locations in the media device.

Pease, however, discloses memory locations in the form of addresses (Column 3, lines 26-65). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the data addressing and verification system of Pease into the secure gaming system of Jackson in order to allow authentication of data/memory to begin at any starting address and proceed through used as well as unused portions of memory, thereby providing a better verification or authentication of memory.

Burrows, however, discloses that each of the plurality of memory locations that is read is separated from the other memory locations by at least one memory location, the plurality of memory locations being less than a total number of memory locations in the media device (Column 8, lines 54-60; and Column 12, lines 35-41). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the checksum techniques of Burrows into the secure gaming system of Jackson as modified by Pease in order to increase the speed with which the system can perform integrity checks.

Regarding Claim 18,

Jackson as modified by Pease and Burrows discloses the method of claim 17, in addition, Pease discloses that the portion of the media device is equal to all the memory locations in the media device (Column 3, lines 26-65).

Regarding Claim 19,

Jackson as modified by Pease and Burrows discloses the method of claim 17, in addition, Burrows discloses that the plurality of memory locations are equally spaced from each other (Column 8, lines 54-60; and Column 12, lines 35-41).

Regarding Claim 22,

Jackson as modified by Pease and Burrows discloses the method of claim 17, in addition, Burrows discloses that the plurality of memory locations are equally spaced from each other (Column 8, lines 54-60; and Column 12, lines 35-41); and Pease discloses that the first memory location read is a random number S from a first possible memory location that can be read (Column 2, lines 14-33; and Column 3, lines 26-65).

Regarding Claim 23,

Jackson as modified by Pease and Burrows discloses the method of claim 22, in addition, Pease discloses that S is recalculated prior to the reading step (Column 2, lines 14-33; and Column 3, lines 26-65).

3. Claims 8-10, 15, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson in view of Pease and Burrows, further in view of Branstad (U.S. Patent 6,842,860).

Regarding Claim 8,

Jackson as modified by Pease and Burrows discloses the method of claim 1, in addition, Burrows discloses choosing a predetermined number N such that N is equal to a number from 1 to P, wherein P is less than a number of memory locations in the device to be authenticated (Column 8, lines 54-60; and Column 12, lines 35-41); and Pease discloses that setting the address pointer ADDR to the first next memory location in the media device comprises setting ADDR to N (Column 2, lines 14-33; and Column 3, lines 26-65); but may not explicitly disclose calculating the predetermined number N.

Branstad, however, discloses calculating a predetermined number N being a number from 1 to P, wherein P is less than a number of memory locations in the device to be authenticated (Column 19, lines 26-55). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the partial message authentication code techniques of Branstad into the secure gaming system of Jackson as modified by Pease and Burrows in order to provide for additional randomness in the determination of which memory locations are to be

used in computation of the key value, thereby making it harder for a malicious entity to modify data without being detected.

Regarding Claim 9,

Jackson as modified by Pease, Burrows, and Branstad discloses the method of claim 8, in addition, Jackson discloses that the predetermined key is equal to Z(P) such that Z(P) is equal to one of P predetermined keys (Paragraphs 81 and 87-89); and Pease discloses that the predetermined key is equal to Z(P) such that Z(P) is equal to one of P predetermined keys (Column 2, lines 14-33; and Column 3, lines 26-65).

Regarding Claim 10,

Jackson as modified by Pease, Burrows, and Branstad discloses the method of claim 9, in addition, Jackson discloses that Z(P) is calculated prior to a first authentication of the media device (Paragraphs 81 and 87-89); and Pease discloses that Z(P) is calculated prior to a first authentication of the media device (Column 2, lines 14-33; and Column 3, lines 26-65).

Regarding Claim 15,

Jackson as modified by Pease and Burrows does not explicitly disclose that the instructions further include instructions for selecting the number N from a random number less than the number of memory locations in the plurality of memory locations.

Branstad, however, discloses that the instructions further include instructions for selecting the number N from a random number less than the number of memory locations in the plurality of memory locations (Column 19, lines 26-55). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the partial message authentication code techniques of Branstad into the secure gaming system of Jackson as modified by Pease and Burrows in order to provide for additional randomness in the determination of which memory locations are to be used in computation of the key value, thereby making it harder for a malicious entity to modify data without being detected.

Regarding Claim 20,

Jackson as modified by Pease and Burrows discloses the method of claim 17, in addition, Burrows discloses that the plurality of memory locations are equally spaced from each other by a number N, such that N is equal to a number that is less than the total number of memory locations in the media device (Column 8, lines 54-60; and Column 12, lines 35-41); but does not explicitly disclose that N is randomly selected each time the step of reading is performed.

Branstad, however, discloses that N is randomly selected each time the step of reading is performed (Column 19, lines 26-55). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the partial message authentication code

techniques of Branstad into the secure gaming system of Jackson as modified by Pease and Burrows in order to provide for additional randomness in the determination of which memory locations are to be used in computation of the key value, thereby making it harder for a malicious entity to modify data without being detected.

Regarding Claim 21,

Jackson as modified by Pease, Burrows, and Branstad discloses the method of claim 20, in addition, Branstad discloses that N is randomly selected from a number (Column 19, lines 26-55); and Burrows discloses that such number can be less than 20 (Column 12, lines 35-41).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Popham whose telephone number is (571)-272-7215. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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